

## **REMARKS**

Applicants present this Preliminary Amendment in furtherance of the Request for Continued Examination filed November 5, 2004. Claims 1, 3, 6-8, and 12 are currently pending in this application. Applicants have canceled claims 4-5 solely in an effort to advance the prosecution of this application and without prejudice to those claims' introduction in a later-filed application. Claims 1 and 6-7 have been amended herein. Applicants present the following comments and arguments regarding these amended claims, while also calling the Examiner's attention to the further arguments presented in the Amendment After Final dated August 5, 2004.

### **Claim Amendments**

Applicants have amended claims 1 and 6 to narrow the recited ranges of average diameters of the flaky  $\alpha$ -alumina particles, add a range for average thickness, and clarify the wording of the claims. First, the range of the recited average major diameter for the claimed particles has been amended from 0.5 to 25  $\mu\text{m}$  to 2.0 to 25  $\mu\text{m}$  in independent claims 1-6. Support for this amendment is found in the original specification in at least paragraph [0029]. The minimum of the recited average particle diameter range recited in claim 7 has also been amended from 0.5 to 1.0  $\mu\text{m}$ . Support for this amendment is found in the original specification in at least paragraph [0042].

Second, Applicants have amended independent claims 1 and 6 to recite that the claimed particles possess "an average thickness of 0.01 to 0.2  $\mu\text{m}$ ." Support for this amendment is found in the original specification in at least paragraphs [0029] and [0042], as well as original claim 7.

Third, Applicants have amended claims 1 and 6 to clarify that the recited aspect ratio range is calculated by dividing the average major diameter by the average thickness, as stated in paragraph [0025]. While that same paragraph explicitly states that “particle major diameter” and “major diameter” are defined the same throughout the specification, Applicants have amended these claims to conform the term to the recited average major diameter range in both claims, as well as to distinguish it further from the “average particle diameter” used in claim 7. See paragraph [0042].

Each of the amendments to claims 1 and 6-7 are fully supported by the originally filed specification. As such, Applicants assert that these amendments do not result in any prohibited new matter and respectfully request that they be entered.

#### **Rejection Under 35 U.S.C. § 103(a)**

In the Advisory Action dated September 29, 2004, the Examiner maintained the rejection of claims 1, 3, 6-8, and 12 under 35 U.S.C. § 103(a) as obvious over U.S. Patent No. 5,587,010 to Shibasaki et al. in view of U.S. Patent No. 6,197,277 to Fukuda et al. The Examiner believes that Shibasaki et al. teaches alumina particles with a size of 1.0  $\mu\text{m}$  or less and a thickness of 0.1  $\mu\text{m}$  or less, while Fukuda et al. teaches alumina particles produced using a phosphorus compound and possessing a certain isoelectric point. Applicants respectfully traverse this rejection.

Under *In re Royka*, 490 F.2d 981 (C.C.P.A. 1971), the Examiner must prove, in part, that all the limitations of the claimed invention are taught or suggested by the prior art in order to establish a *prima facie* case of obviousness. As amended herein, independent claims 1 and 6 recite that the flaky  $\alpha$ -alumina particles have an average

major diameter of 2.0 to 25  $\mu\text{m}$ , an average thickness of 0.01 to 0.2  $\mu\text{m}$ , and an aspect ratio of 55 to 2000. The cited references, either separately or in combination, simply do not teach or suggest each of these claimed limitations.

As noted by the Examiner, Shibaski et al. restricts its teachings to particles with a diameter of less than 1.0  $\mu\text{m}$  and a thickness of less than 0.1  $\mu\text{m}$ . This diameter is clearly outside the average major diameter range of 2.0 to 25  $\mu\text{m}$  claimed herein. Thus, regardless of any possibility of a thickness or aspect ratio within the claimed range, Shibasaki et al. cannot render obvious the instant particles. Further, Fukuda et al. restricts its teachings to particles with a particle size of 0.2 to 15  $\mu\text{m}$  and an aspect ratio of 15 to 50. That aspect ratio is clearly outside the claimed aspect ratio range of 55 to 2000. Thus, regardless of any possibility of a thickness or aspect ratios within the claimed range, Fukuda et al. cannot render obvious the claimed particles.

In addition, one of ordinary skill in the art would not be motivated to modify the teachings of Shibasaki et al. in order to achieve the claimed alumina particles. Shibasaki et al. focuses on creating "fine flaky alumina particles on the order of submicron suitable as a raw material for fine ceramics" (col. 2, lines 16-18). The reference actually teaches away from particles with a diameter greater than 1.0  $\mu\text{m}$  when it discusses problems with a hydrothermal synthesis process creating a particle size even on the order of "several microns" (col. 2, lines 6-10). Thus, Shibasaki et al. completely rejects and teaches away from larger diameter particles like those of the pending claims. See M.P.E.P. § 2141.02 (stating that prior art references must be considered as a whole, including portions that teach away from the claimed invention).

Use of larger diameter particles would also render the particles of Shibasaki et al. unsatisfactory for their intended use in fine ceramics. See M.P.E.P. § 2143.01.

Moreover, the skilled artisan would not be motivated modify Shibasaki et al. to combine Shibasaki et al. with Fukuda et al. The second reference explicitly teaches and provides multiple examples of larger diameter sizes up to 15  $\mu\text{m}$ . Since Shibasaki et al. teaches away from these large particles, no combination can be suggested. Furthermore, Shibasaki et al. does not even mention aspect ratio and Fukuda et al. explicitly restricts the aspect ratios of its particles to 15 to 50, outside the range claimed herein. Thus, neither reference supports the claimed aspect ratio range, particularly in light of the recited average major diameter and average thickness of the particles.

Neither Shibasaki et al. or Fukuda et al. teaches or suggests each of the limitations of the pending claims. Further, any suggestion that a skilled artisan would be motivated to modify or combine the references to achieve the claimed invention must be the result of picking and choosing different elements from references that simply are not compatible, given the explicit teaching away from particles larger than 1.0  $\mu\text{m}$  in Shibasaki et al. In fact, selecting the claimed elements from the cited references in this manner would suggest the use of impermissible hindsight, when the proper viewpoint for obviousness is at the time of the invention. See M.P.E.P. § 2145 (X)(A). Taken as a whole, the cited references simply do not render obvious the amended claims of the present application. As such, Applicants respectfully request that the rejection be withdrawn and that the Examiner issue a Notice of Allowance.

### **Request for Interview**

Upon consideration of this Preliminary Amendment, Applicants invite the Examiner to contact the undersigned should the Examiner have any questions or comments regarding the amended claims. Specifically, Applicants request that the Examiner contact the undersigned if the Examiner continues to believe that this application does not recite patentable subject matter. During such an interview, Applicants and the Examiner would discuss an appropriate resolution to advance the prosecution of this application towards allowance.

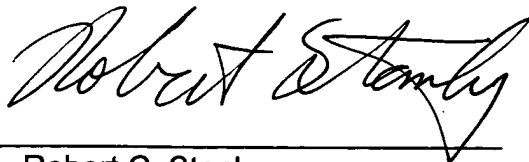
### **Conclusion**

With this Amendment, Applicants have amended claims 1 and 6-7 and canceled claims 5-6, as well as provided comments and arguments as to the patentability of the amended claims over the cited references. As such, Applicants believe this application to recite patentable subject matter and respectfully request a Notice of Allowance.

If there is any fee due in connection with the filing of this Preliminary Amendment, or any other fee needed for its entry or to maintain the pendency of this application, please charge the fee to our Deposit Account No. 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,  
GARRETT & DUNNER, L.L.P.



By: \_\_\_\_\_  
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Reg. No. 55,830

Dated: November 5, 2004



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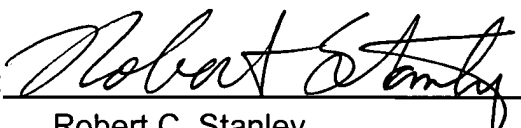
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